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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,850	02/20/2002	Thomas Richard Phillips	AD-6621	3686

7590 03/08/2004

EXAMINER
ROSSI, JESSICA

Kevin S Dobson
E I Du Pont De Nemours & Company
Legal Patents
Wilmington, DE 19898

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,850	PHILLIPS, THOMAS RICHARD	
	Examiner	Art Unit	
	Jessica L. Rossi	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-4 is/are pending in the application.

4a) Of the above claim(s) 4 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-3, drawn to a process for preparing colored thermoplastic composite sheeting.

Group II, claim(s) 4, drawn to a glass laminate.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature shared by Groups I and II is a laminate comprising a first glass layer, a PVB sheeting, a blend of PBV resin and pigment that is coated onto the roughened surface of the sheeting or melt incorporated, and a second glass layer. This common technical feature does not distinguish the claimed invention over the prior art for the reasons given in the Preliminary Examination Report. Groups I and II do not relate to a single general inventive concept because they do not share a special technical feature which defines a contribution over the prior art. Therefore, unity of invention between Groups I and II is lacking and restriction is proper.

3. During a telephone conversation with Mr. Dobson on 2/13/04 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-3. Affirmation of this

election must be made by applicant in replying to this Office action. Claim 4 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

4. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear whether Applicant is claiming a process for preparing colored thermoplastic composite sheeting or a process for making a glass laminate comprising a colored thermoplastic composite sheeting. The claim states "A process for preparing colored thermoplastic composite sheeting for use in laminated structures," which implies that the process only relates to the preparation of the sheeting and not the laminated structure. Yet, the last feature of the claim is the lamination of the sheeting between two layers of glass. Applicant is asked to clarify. It is suggested to redraft the preamble of the claim to state "A process for making a glass laminate comprising...".

Also regarding claim 1, it is unclear what Applicant means by "directly melt incorporating". What is the color concentrate being incorporated into? Applicant is asked to

clarify. According to the specification, the color concentrate is directly melt incorporated into the PVB located in an extruder thereby allowing for extrusion of a colored PVB sheeting (see Example 2 on p. 6). Therefore, it is suggested to redraft claim 1 to include such limitations.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. (US 5487939) in view of Kondo (US 5830568) and Ullmann's Encyclopedia of Industrial Chemistry.

With respect to claim 1, Philips is directed to a process for preparing colored thermoplastic composite sheeting for use in laminated structures (see title). The reference teaches providing a color concentrate comprised of solid pigmented particles (chips) having a preselected particle size (column 3, lines 57-65) and which are dispersed in a polyvinyl butyral resin binder (column 3, lines 59-60; column 7, lines 4, line 66 – column 5, line 3). The reference teaches the particles comprising 0.1-10% by weight of the color concentrate (column 4, lines 8-12), depositing the color concentrate on a roughened surface of a polyvinyl butyral sheeting as a dried colored coating (column 2, lines 26-28 and 34-38; column 7, lines 54-56; claim 1), and laminating the sheeting between the surfaces of two glass layers (skilled artisan reading reference as a whole would have appreciated that "safety glass laminates" comprises two glass

layers bonded together by a thermoplastic interlayer; column 1, lines 22-23; column 4, lines 49-51).

The reference is silent as to the pigment particle size being pre-selected to minimize haze and the polyvinyl butyral resin binder having a low molecular weight.

Phillips acknowledges a concern in the art with minimizing haze in laminated safety glass having a colored thermoplastic interlayer (column 4, lines 48-52). Philips also acknowledges that haze is directly related to the ultimate size of the pigment particles in the dispersion (column 4, lines 54-56), which can be controlled by using additives or milling techniques (column 4, lines 57-60).

It is known in the art to minimize haze in safety glass laminates, having a colored thermoplastic PVB interlayer, by using pigment particles having a pre-selected particle size - specifically, a diameter of up to 0.2 um (= 200 nm), as taught by Kondo (abstract; column 2, lines 62-65; column 3, lines 2-5 and 34-40 and 57-59; column 5, lines 14-18 and 47-50); note particle size falls within range claimed and/or disclosed by present invention (see claim 2) while also having similar haze values – compare reference's haze value of 0.2% (column 12, line 29) with that of present invention found in Table 1 on p. 6.

Therefore, it would have been obvious to the skilled artisan at the time the invention was made to use pigment particles having a particle size pre-selected to minimize haze for the particles of Phillips because such is known in the art, as taught by Kondo, wherein this eliminates the need to employ extra processing steps, such as milling, to ensure proper dispersion of the particles and thereby minimizing haze.

It is well known in the PVB resin art that low molecular weight PVB resin is better suited for inks, pigments, dispersions, etc. as taught by Ullmann's Encyclopedia (p. 752, 1st column under subheading "Paints"). Therefore, it would have been obvious to the skilled artisan at the time the invention was made to use a low molecular weight PVB resin for the PVB resin of Phillips because such is known in the art, as taught by Ullman's, and it is well-suited for use with pigments.

Regarding claim 2, Kondo teaches the particles having a diameter up to 0.2 um (= 200 nm; column 3, lines 10-16).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al., Kondo, and Ullmann's Encyclopedia of Industrial Chemistry as applied to claim 1 above, and further in view of GB 1245268.

Regarding claim 3, selection of a particular viscosity for the low molecular weight PVB resin of Phillips would have been within purview of the skilled artisan at the time the invention was made depending on the desired characteristics thereof. However, it would have been obvious to the skilled artisan to use a low molecular weight PVB resin having a viscosity that falls within Applicant's claimed range when measured at 20° C as a 5% solution in n-butanol because such is known in the art when using PVB resin as a binder for pigment particles, as taught by GB 1245268 (p. 1, left column, lines 10-14; p. 4, left column, lines **54-62**); note "Mowital B30" taught by GB '268 is that being disclosed by present invention on p. 5, lines 8-12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica L. Rossi
Patent Examiner
Art Unit 1733